

IN THE CLAIMS:

Amend the claims to read as indicated below.

1. (currently amended) An ultrasonic diagnostic imaging system which acquires images of differently oriented image planes of a patient in rapid succession comprising:

a probe including a two dimensional array transducer;

a beamformer, coupled to the array transducer, for scanning beams over a variety of different directions and inclinations with respect to the array transducer;

a beamformer controller programmable to scan beams over differently oriented image planes in a sequence of image planes until acquisition of the image planes has been completed;

an image processor coupled to the beamformer;

a display coupled to the image processor;

a plane orientation control, coupled to the beamformer controller, for adjustment of the orientations of ~~an~~ a plurality of image planes relative to selected anatomy;

a storage device responsive to the plane orientation control and operative to store ~~a~~ parameters of different image plane orientations selected by operation of the plane orientation control; and

an acquisition control, coupled to the beamformer and responsive to the stored parameters, for initiation in a diagnostic exam of the acquisition of a sequence of image planes in the selected succession of different orientations with respect to the selected anatomy.

2. (original) The ultrasonic diagnostic imaging system of Claim 1, further comprising a source of patient heart waveforms coupled to the beamformer controller.

3. (original) The ultrasonic diagnostic imaging system of

Claim 1, wherein the image processor further comprises a contrast agent image processor.

4. (currently amended) The ultrasonic diagnostic imaging system of Claim 1, wherein the plane orientation control further comprises a manually operated user control; and wherein the storage device further comprises:

a storage device for storing scanning parameters for a plurality of plane orientations selected by the user control.

5. (previously presented) The ultrasonic diagnostic imaging system of Claim 4, further comprising a plurality of imaging parameters which may be adjusted by a user; and

wherein the storage device further comprises a storage device for storing adjusted imaging parameters.

6. (original) The ultrasonic diagnostic imaging system of Claim 5, wherein the beamformer controller is responsive to stored scanning parameters and imaging parameters upon activation of the acquisition control.

7. (previously presented) A method for operating the ultrasonic diagnostic imaging system of Claim 1 to perform the acquisition of ultrasonic images of a plurality of differently oriented image planes in rapid succession comprising:

aiming a first image plane of a two dimensional array probe through an acoustic window of a body;

reaiming the image plane through the acoustic window by use of the plane orientation control to image a second image plane of a different orientation than the first image plane;

storing information defining the orientation of the second image plane in the storage device; and

initiating a sequence of image acquisition which acquires an image of the first image plane followed by an image of the second

image plane by use of the stored information.

8. (original) The method of Claim 7, wherein reaiming further comprises reaiming the image plane through the same acoustic window as that of the first image plane.

9. (previously presented) The method of Claim 8, further comprising storing information defining the orientation of the first image plane in the storage device,
wherein initiating further comprises using the stored information of the first image plane.

10. (original) The method of Claim 7, further comprising infusing the body with an ultrasonic contrast agent.

11. (original) The method of Claim 10, further comprising, following infusing, applying stress to the body and,
following applying, repeating the initiating step.

12. (original) The method of Claim 10, wherein the body comprises the heart and wherein the myocardium of the heart is infused with the contrast agent.

13. (original) The method of Claim 12, wherein, in the aiming and reaiming steps, the first image plane comprises one of an AP4, AP2, or AP3 view of the heart, and the second image plane comprises a different one of an AP4, AP2, or AP3 view of the heart.

14. (original) The method of Claim 7, further comprising adjusting an image parameter after at least one of the aiming and reaiming steps; and
storing the adjusted image parameter for each step,
wherein initiating further comprises using the stored

adjusted image parameter during image acquisition.

15. (currently amended) A method for operating the ultrasonic diagnostic imaging system of Claim 1 to acquire diagnostic ultrasound images of the heart comprising:

maintaining the two-dimensional array transducer in contact with an acoustic window of a body to image a first plane of the heart;

imaging a second plane of the heart by selective change of the direction of beam scanning with the plane orientation control while maintaining the probe in contact with the acoustic window;

storing information describing the orientations of the first and second planes in the storage device;

introducing a contrast agent into the myocardium of the heart;

acquiring a heart cycle waveform of the heart; and

~~acquiring-initiating acquisition of~~ images of the first and second planes of the heart by use of the stored information and in synchronism with the heart cycle waveform.

16. (currently amended) The method of Claim 15, wherein ~~acquiring-initiating acquisition~~ further comprises acquiring images of the first and second planes during a single waveform.

17. (original) The method of Claim 16, wherein acquiring further comprises acquiring another set of images of the first and second planes a predetermined number of heart cycles following the first acquiring of images.

18. (currently amended) The method of Claim 15, wherein ~~acquiring-initiating acquisition~~ further comprises acquiring an image from a different plane in successive heart cycles.

19. (currently amended) The method of Claim 15 further

comprising:

following the first ~~acquiring~~ initiating acquisition of images of the first and second planes of the heart, increasing the heart rate; and

following increasing the heart rate, acquiring for a second time images of the first and second planes of the heart by use of the stored information and in synchronism with the heart cycle waveform.

20. (original) The method of Claim 16, wherein acquiring images of the first and second planes of the heart further comprises acquiring less than all of the scanlines of the first and second planes alternately until complete images of the first and second planes have been acquired.